Chapter 8
Shoreline Use Analysis

Phase 2, Task 2.2.3
Shoreline Master Program Planning Process

Introduction

One of the Shoreline Management Act's (SMA) major tenets is reserving the shoreline for uses that are "unique to or dependent upon use of the state's shorelines" [RCW90.58.020]. Projecting the need for shoreline space for water-oriented uses is a key task of the Shoreline Master Program (SMP) planning process. For the shoreline use analysis, you will look at existing uses and trends and project future demand for uses that have a direct relationship to the water – those water-dependent, water-related and water-enjoyment uses. You will anticipate use conflicts that may result from current and future development and set the stage for minimizing these conflicts in the final SMP. The shoreline use analysis should discuss whether local shorelines will be able to accommodate the future demand for shoreline space, particularly the preferred water-dependent uses.

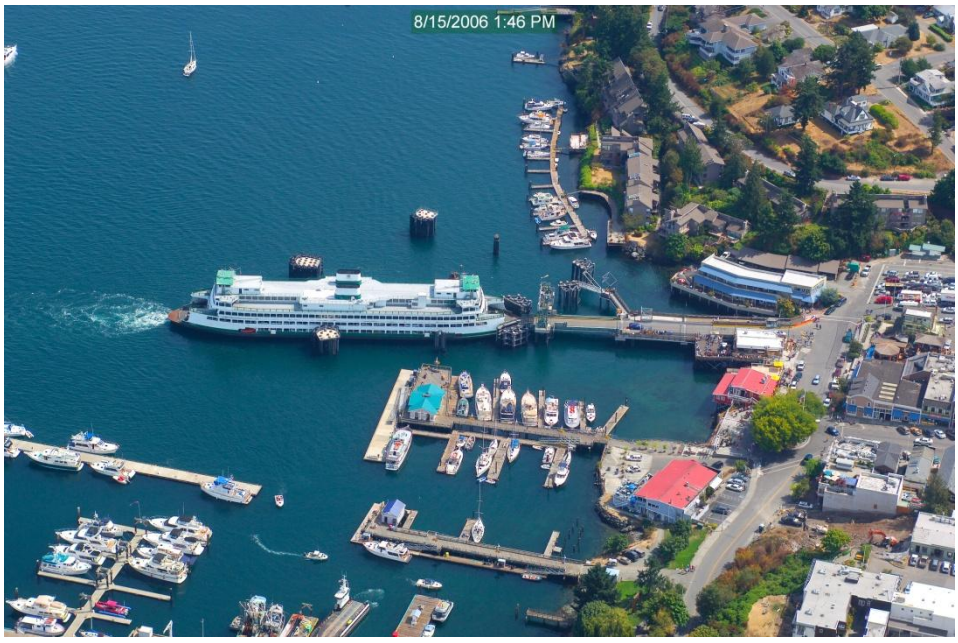

Figure 8-1: Shorelines, such as this area in Friday Harbor on San Juan Island, are home to a variety of transportation, residential, recreational, and commercial uses. The shoreline use analysis can help local governments quantify and prioritize these uses in their shoreline areas. (Washington Coastal Atlas Photo.)

Please note that Task 2.2.4 (previously combined with the use analysis in Task 2.2.3) requires an analysis of public access opportunities. This analysis is separate from the shoreline use analysis, and is discussed in Chapter 9 – Shoreline Public Access. These tasks and the resulting report build on the inventory that's already been prepared for Task 2.1.

The shoreline use and public access analyses can be presented in one of several formats. These analyses can be contained within the Inventory and Characterization or provided as separate documents accompanying the Inventory and Characterization to fulfill the requirement for Product 2.3. The level of analysis will likely determine the final format of the report. It will be important to ensure that the use analysis is clearly identified, whether as a separate report or as part of the Inventory and Characterization, to ensure that it is easily referenced when developing future components of your SMP.

This chapter will review the SMP Guidelines, suggest a process for conducting the use analysis, and discuss ways in which you will use the use analysis to inform other aspects of your comprehensive SMP update.

SMP Guidelines

The SMP Guidelines require the shoreline use analysis estimate the future demand for shoreline space, reveal potential use conflicts, and identify opportunities for siting preferred uses in shoreline areas. (See box at right.) The objective of this task is to ensure that the shoreline is available for future shoreline uses that are unique to or dependent on the shoreline.

The results of the use analysis can be used to inform many aspects of the SMP planning process, including:

- Environment designations.
- Shoreline use regulations.
- Critical areas regulations.
- Restoration plans.
- Cumulative impacts analysis.

WAC 173-26-201 (3)(d)(ii): Shoreline use analysis and priorities. Conduct an analysis to estimate the future demand for shoreline space and potential use conflicts. Characterize current shoreline use patterns and projected trends to ensure appropriate uses consistent with chapter 90.58 RCW and WAC 173-26-201 (2)(d) and 173-26-211(5).

If the jurisdiction includes a designated harbor area or urban waterfront with intensive uses or significant development or redevelopment issues, work with the Washington state department of natural resources and port authorities to ensure consistency with harbor area statutes and regulations, and to address port plans. Identify measures and strategies to encourage appropriate use of these shoreline areas in accordance with the use priorities of chapter 90.58 RCW and WAC 173-26-201(2)(d) while pursuing opportunities for ecological restoration.

You should refer to the use analysis when developing the above portions of your final SMP.

Figure 8-2: Lake Chelan's shorelines are home to a variety of water-dependent and water-enjoyment uses, as well as undeveloped areas. The Inventory and Characterization can help you identify the existing uses on your shorelines. (Washington Coastal Atlas Photo.)

Preferred uses for shoreline areas are listed in WAC 173-26-201(2)(d). The order of preference assigned to these uses is as follows:

- Protection and restoration of ecological function.
- Water dependent uses.
- Water related uses.
- Other compatible water enjoyment uses.
- Single family residences.

In addition, the SMP Guidelines require that non water-oriented uses be limited to areas where preferred uses are not appropriate or these uses contribute to the goals of the SMA [WAC 173-26-201(2)(d)].

WAC 173-26-020 provides definitions for several of the key terms used in this chapter:

(39) "Water-dependent use" means a use or portion of a use which cannot exist in a location that is not adjacent to the water and which is dependent on the water by reason of the intrinsic nature of its operations.

(40) "Water-enjoyment use" means a recreational use or other use that facilitates public access to the shoreline as a primary characteristic of the use; or a use that provides for recreational use or aesthetic enjoyment of the shoreline for a substantial number of people as a general characteristic of the use and which through location, design, and operation ensures the public's ability to enjoy the physical and aesthetic qualities of the shoreline. In order to qualify

as a water-enjoyment use, the use must be open to the general public and the shoreline-oriented space within the project must be devoted to the specific aspects of the use that fosters shoreline enjoyment.

(41) "Water-oriented use" means a use that is water-dependent, water-related, or water-enjoyment, or a combination of such uses.

(43) "Water-related use" means a use or portion of a use which is not intrinsically dependent on a waterfront location but whose economic viability is dependent upon a waterfront location because:

(a) The use has a functional requirement for a waterfront location such as the arrival or shipment of materials by water or the need for large quantities of water; or

(b) The use provides a necessary service supportive of the water-dependent uses and the proximity of the use to its customers makes its services less expensive and/or more convenient.

Use analysis process

The level of analysis needed will depend upon each jurisdiction's size, existing land use patterns and potential future demand for shoreline space and use. For example, smaller communities with full build out of shoreline with residential uses only would probably envision future uses to focus on redevelopment of residential structures. The resulting use analysis would be fairly simple. Communities with large amounts of undeveloped lands or a diversity of potential future uses would likely need a more in-depth analysis, as these future uses may compete and generate use conflicts, calling for a greater degree of planning and analysis. The inventory and characterization should provide the basic information needed to determine the level of shoreline use analysis required.

The following three basic steps outline one approach to conducting a use analysis. Depending on your unique shoreline conditions, you may wish to modify, expand upon, or simplify these steps in order to achieve the appropriate level of analysis.

1. Identify current patterns of land uses in shoreline areas

The first step in the use analysis is to identify current patterns of uses in shoreline areas, and to categorize the types of existing uses on your shorelines.

Identifying current shoreline use patterns includes describing what areas contain single family residential, industrial, commercial, and recreational shoreline uses, as well as undeveloped areas. It also includes identifying the variety of types of existing development such as overwater structures (piers, boat houses, and marinas), and shoreline armoring such as bulkheads and revetments.

You will likely be able to identify these patterns based on information collected and mapped in the Inventory and Characterization. Additional sources may include comprehensive plans, shoreline aerial photos, and community knowledge.

Capture this inventory of current shoreline uses by identifying the amount of each type of use in shoreline jurisdiction. Present the acreage for each type of use and identify where each use occurs within each shoreline reach if the information to do so is available. Also, identify uses in specific terms – instead of merely classifying a use as "commercial," indicate whether it is a water-dependent, water-related, water-enjoyment, or a non water-oriented use if possible.

The City of North Bend's Inventory and Characterization Report provides an example of a table used to present shoreline uses by reach. This type of table would be appropriate for many smaller jurisdictions as a method of briefly but accurately characterizing existing shoreline use.

Exhibit 3. Current Land Use (Acres) along North Bend Shorelines

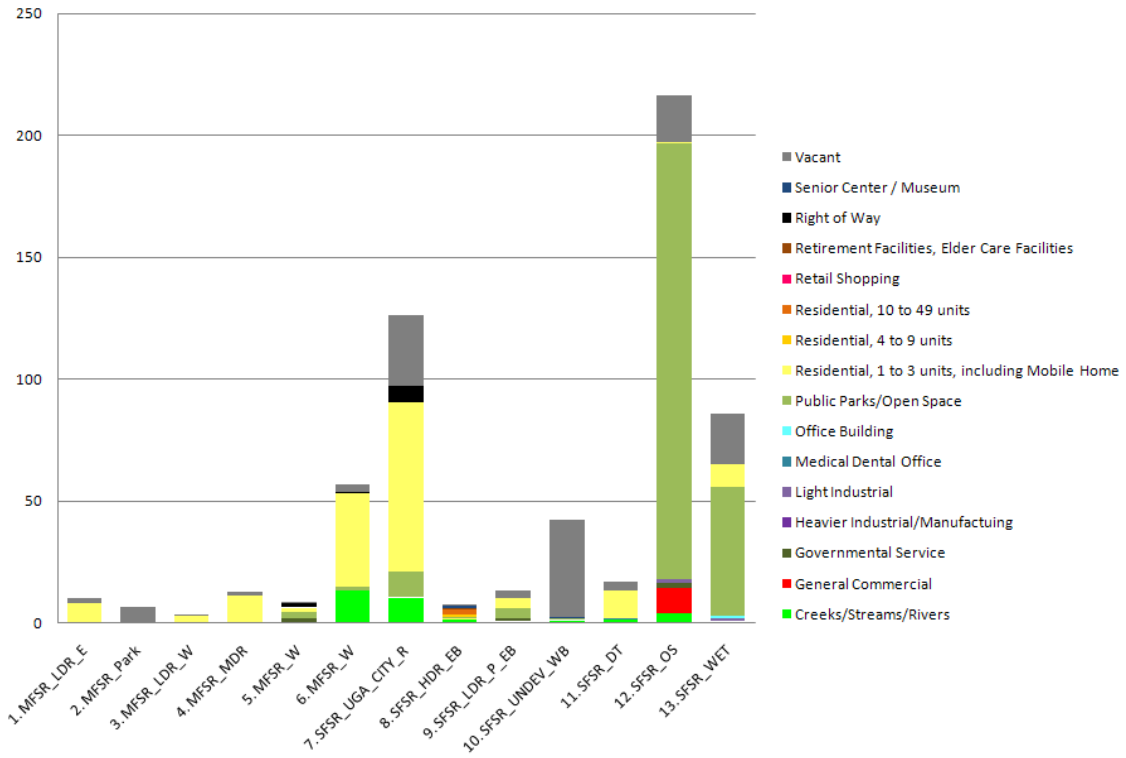

Figure 8-3: An example of a graphic characterizing shoreline land use in a smaller jurisdiction. (Source: Shoreline Analysis Report for the City of North Bend's Shorelines: South Fork and Middle Fork Snoqualmie River. City of North Bend, The Watershed Company, and ICF International)

2. Identify likely shoreline uses and estimate future demand for shoreline space

After identifying the current status of shoreline uses, the next step is to project what uses might locate in shoreline areas and estimate future demand. Identify what uses might occupy vacant and developable shoreline space, potential redevelopment opportunities, and community needs and desires for different types of uses.

Identify how much demand may exist within your community for uses such as:

- Shipping and ports.
- Water-dependent uses such as ferry terminals, marinas, energy development and aquaculture.
- Water-related uses such as storage of goods transported by water.
- Water-enjoyment uses such as parks or aquariums.
- Single family houses.
- Public access and recreation facilities.

What is the projected future demand for each of these specific uses of the shoreline and how much space is expected to be needed? For example, if the existing marina in your community has a lengthy waiting list, there is clearly a demand for more boat slips. You should determine how much additional space would be needed to serve that demand. How much demand can be accommodated by using existing space already intended for future development for marina use? While there may not be room to develop additional marina space, the demand for this type of public recreational use illustrates that existing marina space should not be converted to other uses. In another example, cities with existing port facilities should assess the potential for expansion or conversion of these areas. Cities and counties without these types of uses may wish to consider whether or not these uses are likely to locate in their jurisdictions.

You do not need to consider every water-dependent use, but should consider those that could be likely, depending on the local circumstances. For example, counties with marine waters should consider whether saltwater finfish net pens and marinas are potential shorelines uses. Cities with small lakes and streams may not need to consider the potential for saltwater finfish net pens, but may need to consider marinas or boat launches.

Sources for information on likely shoreline uses include development trends identified in comprehensive plans or other materials used to compile the inventory and characterization. Other sources include local documents and plans such as a land capacity analysis, parks plans, and capital facilities plans; industrial and port lands analyses compiled by port authorities or business and industrial coalitions; and future growth trend projections. Draw upon comments provided during the community visioning process (Task 3.1) and other public participation activities. Community input can be a key source of information for this step in the process.

3. Identify opportunities for SMA preferred uses and potential use conflicts

Future uses must be consistent with the order of priority for preferred uses established in the SMP guidelines. Therefore, the shoreline use analysis should identify potential opportunities to site these preferred uses appropriately. These uses may include, for example:

- Port facilities and related activities such as storage areas.
- Waterfront restaurants providing public access.
- Regional and local marina demand.
- Waterfront single-family residential demand.

Keep in mind that particular water-dependent uses may require specific shoreline characteristics. For example, commercial ports, boat landings, or fishing piers may all require specific water depth, pier depths and lengths, available adjacent lands, and access to major land-based transportation systems. Areas that contain features uniquely suited to the development of preferred uses should be preserved for these uses rather than converted to other uses that do not require access to water or specific site conditions. Shorelines with water depths and other conditions suitable for deep water ports should be reserved for these uses.

Use conflicts may occur where development could conflict with provision of shoreline public access, or industrial development or aquaculture could conflict with nearby residential development. These potential conflicts should be noted in the use analysis report so that you can take them into account later when developing SMP policies and regulations. Careful analysis at this stage will lead to appropriate shoreline environment designations and regulations including identifying permitted and prohibited uses, resulting in appropriately sited future development.

Look at the existing and projected shoreline uses and determine whether any of these currently or potentially might come into conflict with each other. Might redevelopment proposals or opportunities conflict with surrounding uses? For example, would a large development project affect the views of nearby residences? Would increased water dependency add to the extent of overwater structures, docks, bulkheads, piers, or other structures that may adversely impact the environment? Will net pen aquaculture generate any conflicts with other existing or potential uses?

Some local governments may be able to quantify the potential for use conflicts. For example, the City of Tacoma's chart below outlines several key shoreline use criteria and points to multiple shoreline segments where use conflicts due to redevelopment pressures may arise.

Table 4. Districts in which Shoreline Protection May Conflict with Shoreline Development Demand
Shoreline districts are highlighted as potential conflict areas if there is rapidly developing shoreline, a buffer requirement of 115 feet or greater and more than 25% of parcel acreages are in the shoreline jurisdiction.

District	Total Parcels[1]	Median Shoreline Acres per Parcel/Median Parcel Acres	Vacant Parcels	% Parcels Vacant	Redevelopable Parcels[2]	% Parcels Redevelopable	Rapidly Developing Shoreline?[3]	Buffer	Length of shoreline in District
S1	47	75%	5	11%	22	47%	Minimal	50-115	3,089
S2	19	50%	7	37%	2	11%	Minimal	115	8,418
S3	17	5%	10	59%	0	0%	Minimal, Rapidly	200	15,196
S4	all park						None	200	11,630
S5	4		0	0%	4	100%	None, Minimal	115	12834
S6	68	77%	23	34%	28	41%	Minimal	115	16,510
S7	12	61%	9	75%	3	25%	Minimal	115	8,040
S8	78	84%	3	4%	54	69%	Rapidly	50	19,755
S9	39	32%	18	46%	11	28%	None, Rapidly	150	19,433
S10	127	39%	12	9%	87	69%	None, Rapidly	50	101,153
S11	12	25%	6	50%	3	25%	None, Rapidly	115	6,981
S12	45	29%	24	53%	11	24%	None, Minimal, Rapidly	115	9,431
S14	49	70%	6	12%	3	6%	Not evaluated	300	6,134

[1]Parcels in the following use categories were excluded from the analysis: street ROW, railroad ROW, drainage facilities, utilities, water areas and tidelands, parks, greenbelt common areas, Indian reservation land, government services, military bases, fire stations, apartments and condominiums.
[2]Redevelopable: improvement value < 50% of land value.
[3]Shoreline Inventory and Characterization, Appendix B, 2004 Map Folio. None=Protected via a previous restoration activity or a conservation/natural area designation; Minimal=Few development permits applied for annually; Rapidly=Development permits processed on a regular basis.

Figure 8-4: This table provides some quantitative analysis of areas where use conflicts may arise (Source: Working Draft, Tacoma Shoreline Use Analysis. ESA Adolfson and City of Tacoma.)

Whatever development is eventually permitted and built must align with the priorities outlined in the WAC. The use analysis should propose opportunities for siting these uses and be referred to later when developing policies and regulations that site and prioritize these uses.

Use analysis report

As mentioned previously, the use analysis can be prepared as a stand-alone report or simply as a section of the Inventory and Characterization report. The decision of what type of document to produce will largely rest with the complexity and length of the use analysis. Regardless of the format employed, the use analysis should be clearly identifiable and information developed through the above steps should be included. The Inventory and Characterization report should include a review of the information presented in the use analysis and recommendations for how it can inform the final SMP.

In the examples cited above, the City of North Bend included its relatively brief use analysis within the Inventory and Characterization report. The City of Tacoma produced a lengthy separate report that dealt with the diverse multiple shoreline segments and uses. The City of Tacoma's approach involved dividing the shoreline into 14 distinct mapped segments, and then providing a brief discussion on each of the following topics:

- Current use and development patterns.

- Supply and demand for water-dependent uses.
- Plans and trends.
- Existing SMP policy and allowed uses.
- Environmental conditions.
- Potential use conflicts.
- Policy considerations.

This format easily allows readers to draw key use analysis information for each distinct section of shoreline.

Referencing the use analysis in your SMP

The use analysis should be used to support development of several SMP components. You can rely on the characterization of current shoreline uses in the use analysis when developing environment designations to guide your choices about what uses may be appropriate or inappropriate in certain shoreline reaches. Projections of likely future development may help to develop policies and regulations that allow for expansion of likely future water-oriented uses while prohibiting inappropriate shoreline uses from occupying shoreline space.

Referencing the use analysis in your cumulative impacts analysis

The use analysis should also be used to inform the cumulative impacts analysis. The projections of development trends evaluated in the cumulative impacts analysis should come directly from the use analysis. You should analyze the environmental impacts of the proposed development identified in your use analysis in the cumulative impacts analysis. Then, you can verify that SMP policies and regulations on future development will ensure that mitigation sequencing is applied in order to result in no net loss from future development opportunities identified in the use analysis.